FAX MEMORANDUM

TO: Aaron Nissen, Intermountain Power

FROM: Richard Monro, RJM Corporation

DATE: December 5, 1991

RE: Final Burner Set-up Positions

Based on test data to date and extensive additional aerodynamic analysis, the recommended burner settings are as follows:

1) Inner Zone Air Vanes - 100% open

2) Inner Zone Back Plate Opening - as listed on the attached sheet dated 12/05/91.

3) Outer Zone Air Vane Position - 6.25 inches from back of vane perpendicular to stiffener plate on back of other vane.

The above combination will correct the airflow split between the inner and outer air zones while raising the integrated swirl number of the burner to be equal to the integrated swirl number of the present burner set-up. The above recommended set-up will also make all recirculation numbers in the burner positive (no aspiration of hot furnace gases into the burner). The present burner set-up creates a slight negative recirculation number in the region of the outer diameter shroud of the swirler.

Analysis indicates that throttling the inner zone air vanes to the 20° position has done nothing more than increase resistance to flow pushing more air to the outer zone register. The above recommended set-up does this more efficiently by closing down on the back plate position.

After you have received this information, please give me a call so we may discuss it in further detail.

RJM/ftd
Attachment

Backplate Settings

12/5/91

ID	PRESENT OPENING	NEW OPENING	
FE6	4.35	2.96	2 15/16"
FE5	4.30	2.93	2 13/16
FE4	4.38	2.98	3"
FE3	5.57	3.79	3 13/16
FE2	5.31	3.62	3 5/8
FE1	5.80	3.95	3 13/16
FA6	4.65	3.17	3 3/16
FA5	3.90	2.65	2 5/8
FA4	4.04	2.75	2 3/4
FA3	5.25	3.57	3 9/16
FA2	6.28	4.27	4 1/4"
FA1	5.42	3.69	3 11/16
FF6	4.60	3.13	3 1/8
FF5	4.48	3.05	3"
FF4	5.21	3.55	3 9/16
FF3	4.95	3.37	3 3/8
FF2	5.65	3.84	3 13/16
FF1	5.80	3.95	3 15/16
FB6	5.69	3.87	3 7/8
FB5	4.95	3.37	3 3/8
FB4	5.04	3.43	3 7/16
FB3	7.22	4.92	4 15/16
FB2	7.24	4.93	4 15/16
FB1	7.11	4.84	4 13/16
RD1	4.26	2.90	2 7/8
RD2	4.45	3.03	3"
RD3	4.94	3.36	3 3/8
RD4	4.79	3.26	3 1/4
RD5	5.74	3.91	3 15/16
RD6	5.06	3.44	3 7/16
RH1	4.20	2.86	2 7/8
RH2	4.33	2.94	2 15/16
RH3	5.21	3.55	3 9/16
RH4	4.57	3.11	3 1/8
RH5	5.48	3.73	3 3/4
RH6	5.86	3.99	4"
RC1	4.05	2.76	2 3/4
RC2	3.93	2.67	2 11/16
RC3	4.15	2.82	2 13/16
RC4	4.74	3.23	3 1/4
RC5	9.14	6.22	6 1/4
RC6	5.01	3.41	3 7/16
RG1	4.21	2.87	2 7/8
RG2	4.33	2.94	2 15/16
RG3	3.80	2.59	2 9/16
RG4	5.61	3.82	3 13/16
RG5	5.62	3.83	3 13/16
RG6	6.18	4.21	4 3/16"